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SUBJECT: Venezuelan Focus on the Electricity Sector: Too Little Too Late?

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REASON: 1.4(B), (D)

¶1. (C) SUMMARY: The daily Venezuelan press is now filled with stories concerning the electricity sector crisis that distract attention and confuse the general populace. Relying on its hydropower, Venezuela has managed to generate nearly all of the electricity it requires on a daily basis. Current rationing and electricity outages appear to be the result of the poor state of its transmission and distribution networks. However, due to a shortage of rain since 2008, the reservoir of the Guri dam complex, Venezuela's largest, is severely depleted, prompting concerns that the hydroelectric sector might fail by May. Even though Venezuela experienced a similar crisis in 2003 during the last El Niño, new thermal generating capacity has not kept up with electricity consumption growth and the infrastructure has not been maintained. The failure of the Bolivarian Republic of Venezuela (GBRV) to invest and execute maintenance and expansion projects in the electrical sector over the last decade has given rise to a scenario where its hydropower may have to be shut down and the country does not have sufficient alternative thermal power to meet demand. END SUMMARY.

#### The Distractions

¶2. (SBU) On December 21, 2009, the GBRV published electricity rationing measures aimed at reducing electricity consumption in public buildings, commercial malls, etc. The emergency measures called for all business in malls to be open only between the hours of 11:00 am-9:00 pm. Implemented on January 4, 2009, the regulation's impact was to close restaurants, bars, and movie theaters located in malls (along with delayed opening in the morning of banks, retail establishments, and certain government offices). On January 6, 2010, the press reported that GBRV Vice President Carrizales had announced the easing of the rationing measures directed at malls after reviewing a report presented by

the Federation of Malls demonstrating that malls already had reduced electricity consumption by 20% as a result of measures taken following an Electricity Ministry directive in October 2009.

¶3. (SBU) The press has widely covered the possible closure of production lines in Bolivar state-based heavy industries in order to reduce electricity consumption. Press articles currently speculate that the electricity crisis has afforded the GBRV an opportunity to shift the blame for decreasing production and on-going labor and mismanagement issues in those industries onto the electricity crisis. On January 12, media reported a nationwide electricity rationing program being rolled out by the Ministry for Electricity and Corpolec.

#### Peeling the Onion

¶4. (C) On January 7, EconOff spoke with Carlos Marsik (protect) who worked as an engineer in Post's Facilities Maintenance Section. [NOTE: Marsik's last day of employment with the Embassy was January 8 as he is emigrating to Canada. END NOTE] Previously, Marsik worked for electricity company Edelca (four years) in the Macagua

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hydroelectric plant. He then worked for Electricidad de Caracas (6 years) in mechanical systems. His wife is the head of the Turbine Section in Edelca's Mechanical Design Department. The following information incorporates Marsik's perspective on the electricity sector coupled with additional post research based on available open sources. The graphics were provided to EconOff by Ciro Portillo (protect), former vice president of electrical company Enelven. Although Portillo did not confirm the source, we believe that they were prepared by Enelven.

#### Electricity Generation - Not a Crisis

¶5. (C) According to data included in the presentation provided by Portillo summarized in the chart below, total installed electricity generation capacity in Venezuela is 23.1543 megawatts (MW), but maximum available capacity is only 17.7 (MW). Only 57% of Venezuela's thermal generating capacity is available, but 88% of its hydroelectric capacity is operating. The Guri hydroelectric complex is comprised of two power plants containing a total of twenty turbines. Six of the turbines are offline under-going long-term maintenance and are not expected back in service until the end of 2010. Without those six turbines, Guri's generation capacity is 8.85 MW; with the additional turbines it will be 10.9 MW.

Installed Capacity (MW)

Per Cent of total installed capacity

Available Capacity (MW)

Available capacity Per cent

Thermo

8,557.1

37%

4,900

57%

Hydroelectric

14,598

63%

12,800

88%

Total

23,154.1

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17,700

76%

16. (C) The Venezuelan press is filled daily, however, with articles about unscheduled power outages around the country, continued electricity rationing, and calls for new rationing. The Operations Office of the Interconnected System (OP SIS) manages the Venezuelan electricity grid and publishes daily statistics. Post has analyzed the statistics going back to October 5, 2009 (the last date available) and determined that OP SIS has balanced generation to meet electricity demand, maintaining a small band of excess/deficit generation within 2 gigawatt hours (GWH) throughout the period.

In fact, OP SIS figures indicate Venezuela produced more electricity than it needed from December 14, 2009 through January 4, 2010 (except on December 23)[NOTE: From December 14 onward, the blue (electricity generated) and green lines (electricity demand) overlap each other reflecting Venezuela produced nearly the exact amount of electricity it required. The red line represents the amount of electricity exchanged with Colombia and Brazil. For the period presented, while daily energy demand averaged around 350 GWH/day, OP SIS was able to maintain an exchange with Colombia and Brazil of less than 2 GWH/day, implying that any power outages or rationing that occurred during this period were the result of national transmission, local distribution, or load balancing problems. Marsik stated that Venezuela's current transmission network has the capacity to carry the electricity load, but suffers from a lack of maintenance and investment. He noted that in 2009 under general guidelines from the Ministry of Energy and Petroleum (MENPET), all electrical subsidiaries including Electricidad de Caracas, cut maintenance and operations budgets by 85-90%.

The Real Crisis: Hydropower

17. (C) The possible collapse of the hydroelectric system as soon as May 2010 and Venezuela's inability to make up for the loss with thermo power is the real crisis confronting the Venezuelan

leadership. Venezuela's umbrella electrical entity, Corpolec appears to have been able to generate sufficient electricity to meet demand by running the hydroelectric turbines at a rate that is not sustainable given current water levels. OPSIS data for January 7 puts the Guri reservoir's water level at 261 millimeters above sea level (msnm), placing it in the "alarm zone" (see graph below).

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The pink line in the graph above tracks the predicted impact of the "el Nino" affect over the months ahead. Our electrical sector sources agree that this prediction most closely matches the trend line seen since August 2009. If water levels continue to decrease per this "el NiClo" prediction and if the Guri hydroelectric complex is subject to continued overproduction, water levels are predicted

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to broach the "emergency zone" around March 10 and the "collapse zone" around May 10 (unless the watershed area receives significant rainfall or Edelca stops using the hydroelectric plants and thus, stops drawing down the reservoir). According to Marsik, the "emergency zone" would require that some hydroelectric turbines be turned off and the "collapse zone" would indicate the entire Guri hydroelectric plant would be off-line. Even though the Guri reservoir is designed for a two-year water cycle, low precipitation levels since 2008 have left it vulnerable to the current drought. Following the last "el NiClo" in 2003, it took two years for the water levels to return to the mid-point of the "safe zone."

GBRV Strategy

18. (C) It is clear that failures under the Chavez administration to invest in basic infrastructure (reservoir maintenance/expansion, transmission and distribution networks, generating capacity) have resulted in the current crisis. The October 22 appointment of Angel Rodriguez to head the new Ministry of Electricity and to be the CEO of the electricity holding company, Corpolec, did not signal a serious response to a crisis. Rodriguez is a political hack who has no background in the electrical sector, has never run a business before, and has not functioned in the executive branch. He is a former labor union leader turned legislator and a trusted Chavez loyalist. Chavez's rhetoric in the January 10 session of his weekly "Alo Presidente" television program serves as another hallmark of his response to the crisis, i.e., telling the Venezuelan public that the crisis is caused by the rich.

19. (C) The Electricity Ministry is now focused on reducing electricity consumption by 1.6 GW, but has not taken action to reduce consumption during peak demand hours of the day (roughly from 3 p.m. to 7 p.m.). [NOTE: On Friday, January 8, in addition to announcing a devaluation of the Venezuelan currency, President Chavez announced that public sector employees' workdays would be shortened to five hours, from 8 a.m. to 1 p.m. END NOTE] Corpolec uses hydroelectricity generation as its base supply and brings on thermoelectric turbines throughout the day to meet peak demand. Post suspects that the Electricity Ministry's short-term goal is to increase the thermoelectricity generation capacity to substitute for hydroelectric generation (and save the reservoir). According to a January 8 media report, the Ministry claims the following system improvements are in progress:

B7 Of 34 emergency projects designed to add 1.47 GW of capacity, 0.6 GW of new capacity have been added.

B7 A ministry planning document claims an additional 1.25 GW of additional thermoelectricity generation capacity will come

on-line in 2010;

B7                The same document states the Ministry plans to add 2.65 GW to the electricity grid in 2011.

¶10. (C) COMMENT: If Venezuela had invested and executed plans to increase its thermoelectric generating capacity, it would be able to take the Guri hydroelectric turbines out of service and conserve the reservoir's water levels. The GBRV confronted a similar problem during the last el Niño cycle in 2003, but the country's electricity consumption was lower and its installed thermoelectric generation capacity had not deteriorated to the degree it has today.

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¶11. (C) Venezuela's current electricity demand and generation capacity is 17.7 GW/day. Its installed thermoelectricity generating capacity is 8.6 GW/day, but currently only 4.9 GW/day is available, or a third of demand. The Electricity Ministry expects to add 0.4 MW of new capacity by March. Clearly, bringing out-of-service capacity back on line must be a GBRV priority, but even if it is successful in the short-term, Venezuela can only rely on its thermal turbines to supply half of the country's daily electricity needs. Thus, we should expect to see greater emphasis by the GBRV on curbing consumption. It is unlikely, however, that Venezuela voluntarily will cut its electricity consumption in half in the next quarter. Thus, short of rainfall saving the day, an electricity crisis is a very real possibility. END COMMENT.  
CAULFIELD